

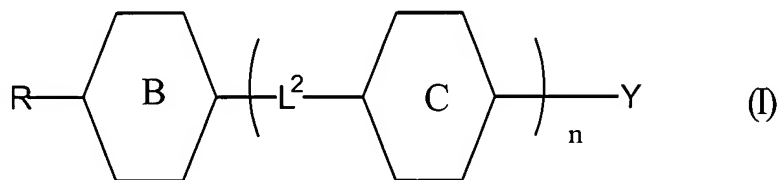
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Reply to OA dated December 13, 2004

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

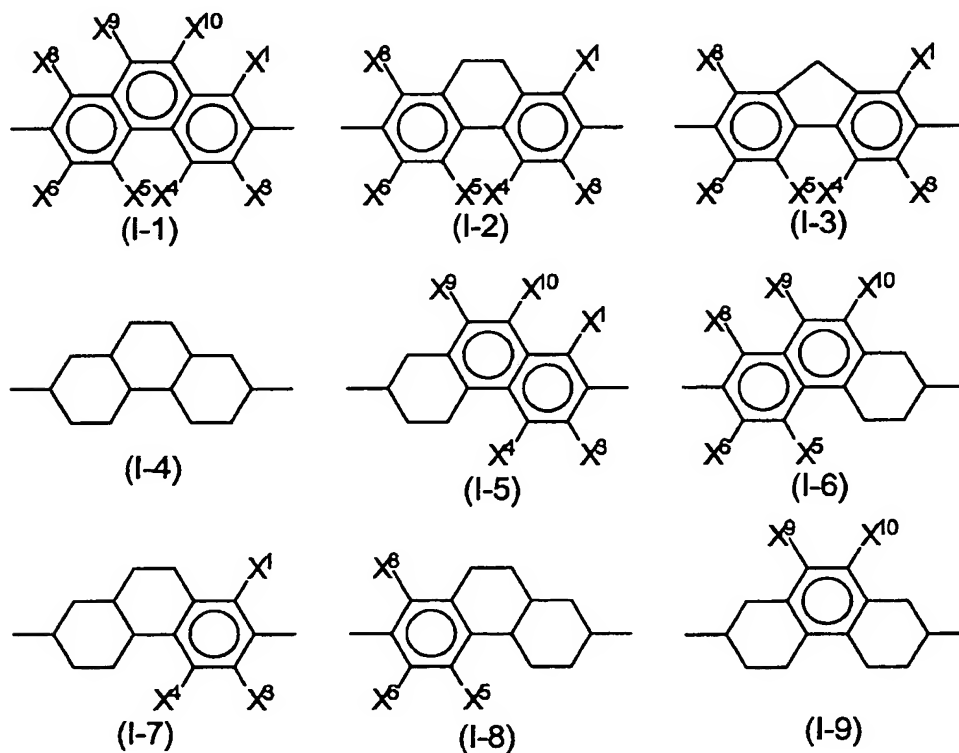
**Listing of Claims:**

**Claim 1 (currently amended):** A fused ring compound represented by a general formula (I)



(wherein, R represents an alkyl group or alkoxyl group of 1 to 16 carbon atoms, an alkenyl group of 2 to 16 carbon atoms, an alkenyloxy group of 3 to 16 carbon atoms, or an alkyl group of 1 to 12 carbon atoms substituted with an alkoxyl group of 1 to 10 carbon atoms, and said groups may be substituted with a halogen, and in cases in which an asymmetric carbon arises due to substitution or branching, may be either one of optically active and a racemic mixture; ring C represents any one of a trans-1,4-cyclohexylene group in which one CH<sub>2</sub> structure within said group or two or more non-adjacent CH<sub>2</sub> structures within said group may be replaced with -O- and/or -S-, a 1,4-phenylene group in which one CH structure within said group or two or more non-adjacent CH structures

within said group may be replaced with -N=, a 1,4-cyclohexenylene group, a 1,4-bicyclo(2.2.2)octylene group, a piperidine-1,4-diyl group, a naphthalene-2,6-diyl group, a trans-decahydronaphthalene-trans-2,6-diyl group, and a 1,2,3,4-tetrahydronaphthalene-2,6-diyl group, and said groups may be substituted with either one of a cyano group and a halogen; ring B represents any one of general formulas (I-1) to (I-9)



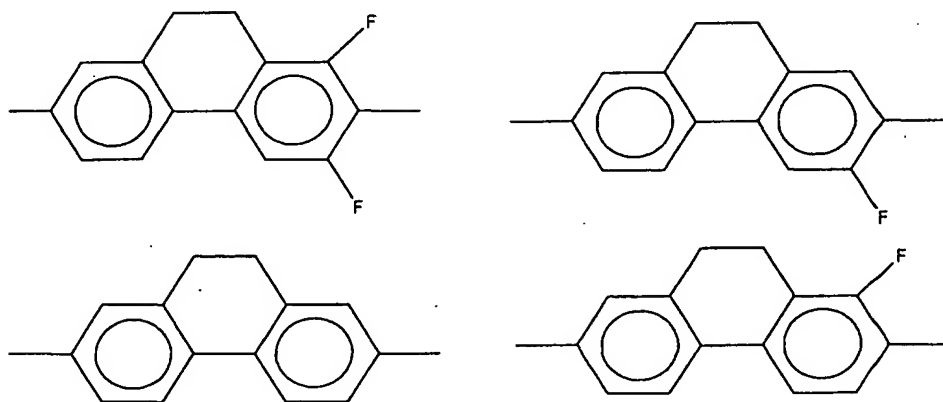
(wherein,  $X^1$ ,  $X^3$ ,  $X^4$ ,  $X^5$ ,  $X^6$ ,  $X^8$ ,  $X^9$  and  $X^{10}$  each represent, independently, any one of a hydrogen atom, a chlorine atom and a fluorine atom, provided that conditions described below are satisfied:

a. in (I-1), in a case in which at least one of  $X^3$ ,  $X^4$ ,  $X^5$  and  $X^6$  represents a fluorine atom, and a remainder represent hydrogen atoms, then at least one of  $X^1$ ,  $X^8$ ,  $X^9$  and  $X^{10}$  represents either one of a chlorine atom and a fluorine atom,

b. in (I-1), in a case in which at least one of  $X^1$ ,  $X^8$ ,  $X^9$  and  $X^{10}$  represents a fluorine atom, and a remainder represent hydrogen atoms, then at least one of  $X^3$ ,  $X^4$ ,  $X^5$  and  $X^6$  represents either one of a chlorine atom and a fluorine atom,

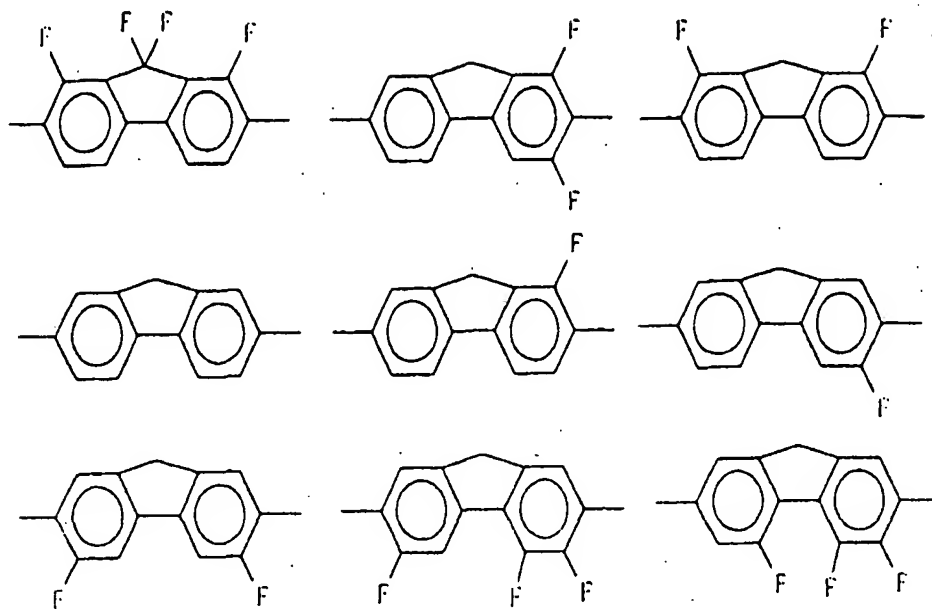
~~c. in (I-4) to (I-9), hydrogen atoms within a ring may be replaced with a cyano group or a halogen);~~

c. ~~[[d.]]~~ in (I-2), ring B represents any one of general formulas as follows:



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and in place of (I-3), ring B represents any one of general formulas as follows:



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$L^2$  represents any one of  $-\text{CH}_2\text{CH}_2-$ ,  $-\text{C}\equiv\text{C}-$ ,  $-(\text{CH}_2)_4-$ ,  $-\text{CF}=\text{CF}-$ ,  $-\text{OCH}_2-$ ,  $-\text{CH}_2\text{O}-$ ,  $-\text{OCF}_2-$ ,  $-\text{CF}_2\text{O}-$ ,  $-\text{CO}_2-$ ,  $-\text{OCO}-$ ,  $-\text{CH}=\text{N}-\text{N}=\text{CH}-$ ,  $-\text{CH}=\text{CH}-\text{CH}_2-\text{CH}_2-$ ,  $-\text{CH}_2-\text{CH}_2-\text{CH}=\text{CH}-$  and a single bond;  $n$  represents 0 or 1;  $Y$  represents any one of a hydrogen atom, a fluorine atom, a chlorine atom, a trifluoromethoxy group, a difluoromethoxy group, a trifluoromethyl group, a 3,3,3-trifluoroethoxy group, a cyano group, a straight chain alkyl group of 1 to 16 carbon atoms, a straight chain alkenyl group of 2 to 16 carbon atoms, a straight chain alkyloxy group of 1 to 12 carbon atoms, and a straight chain alkenyloxy group of 2 to 16 carbon atoms, provided that cases described below are excluded:

- i. a case in which ring B represents (I-2),  $n$  represents 0,  $R$  represents an alkyl group and  $Y$  represents an alkyl group,
- ii. a case in which ring B represents (I-3),  $n$  represents 0,  $R$  represents an alkyl group and  $Y$  represents an alkoxy group,
- iii. a case in which ring B represents (I-4),  $n$  represents 0,  $R$  represents an alkyl group and  $Y$  represents either one of an alkyl group and a cyano group,
- iv. a case in which ring B represents (I-8),  $n$  represents 0,  $R$  represents an alkyl group and  $Y$  represents an alkyl group,
- v. a case in which ring B represents (I-4),  $n$  represents 1, ring C represents a 1,4-phenylene group,  $L^2$  represents  $-\text{CO}_2-$ ,  $R$  represents an alkyl group and  $Y$  represents any one of an alkyl group, an alkoxy group and a cyano group,
- vi. a case in which ring B represents (I-4),  $n$  represents 1, ring C represents a 1,4-phenylene group,  $L^2$  represents  $-\text{OCO}-$ ,  $R$  represents an alkyl group and  $Y$  represents an alkoxy group,

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- vii. a case in which ring B represents (I-2), n represents 1, ring C represents a 1,4-cyclohexylene group,  $L^2$  represents  $-CO_2-$ , R represents an alkyl group and Y represents an alkyl group,
- viii. a case in which ring B represents (I-1), and  $X^9$  and  $X^{10}$  represent fluorine atoms, and
- ix. a case in which ring B represents (I-3), and  $X^3$ ,  $X^4$ ,  $X^5$  and  $X^6$  simultaneously represent fluorine atoms, ~~and applying similarly to compounds equivalent to those above described using combinations of abbreviations and~~
- x. a case in which ring B represents (I-1), Y does not represent a fluorine atom when  $n=0$ ,  $X^1$ ,  $X^3$ ,  $X^4=F$  and  $R=Me$ ).

**Claim 2 (previously presented):** A compound according to claim 1, wherein ring C represents a 1,4-phenylene group or a trans-1,4-cyclohexylene group which may be substituted with at least one fluorine atom.

**Claim 3 (Previously presented):** A compound according to claim 1, wherein  $L^2$  represents any one of  $-OCO-$ ,  $-CO_2-$ ,  $-CH_2CH_2-$  and a single bond.

**Claim 4 (canceled).**

**Claim 5 (previously presented):** A compound according to claim 1, wherein  $L^2$  represents a single bond.

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**Claim 6 (previously presented):** A compound according to claim 1, wherein ring B represents (I-3) or (I-4).

**Claims 7-8 (canceled).**

**Claim 9 (previously presented):** A compound according to claim 1, wherein ring C represents a 1,4-phenylene group or a trans-1,4-cyclohexylene group which may be substituted with at least one fluorine atom, and ring B represents any one of (I-1), (I-2), (I-3) and (I-4).

**Claim 10 (previously presented):** A compound according to claim 1, wherein ring C represents a 1,4-phenylene group or a trans-1,4-cyclohexylene group which may be substituted with at least one fluorine atom, ring B represents any one of (I-1), (I-2), (I-3) and (I-4), and  $L^2$  represents a single bond.

**Claim 11 (Previously presented):** A compound according to claim 1, wherein ring C represents a 1,4-phenylene group or a trans-1,4-cyclohexylene group which may be substituted with at least one fluorine atom, ring B represents any one of (I-1), (I-2), (I-3) and (I-4), n represents 1, and  $L^2$  represents a single bond.

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**Claim 12 (canceled).**

**Claim 13 (previously presented):** A compound according to claim 1, wherein R represents either one of a straight chain alkyl group of 1 to 12 carbon atoms and a straight chain alkenyl group of 2 to 12 carbon atoms, and Y represents any one of a fluorine atom, a chlorine atom, a trifluoromethoxy group, a trifluoromethyl group, a difluoromethoxy group, a 3,3,3-trifluoroethoxy group and a cyano group.

**Claim 14 (original):** A liquid crystal composition incorporating at least one compound according to any one of claims 1 through 13.

**Claim 15 (original):** A liquid crystal display element utilizing a liquid crystal composition according to claim 14.

**Claim 16 (original):** An active matrix driven liquid crystal display element utilizing a liquid crystal composition according to claim 14.

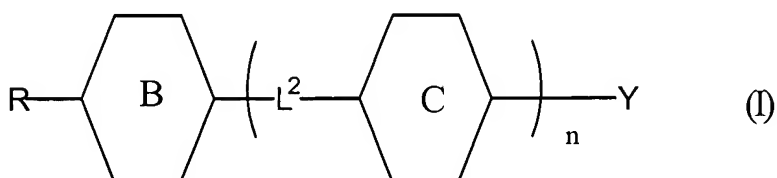
**Claim 17 (original):** A supertwisted nematic liquid crystal display element utilizing a liquid crystal composition according to claim 14.



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**Claim 18 (previously amended):** A fused ring compound represented by a general formula

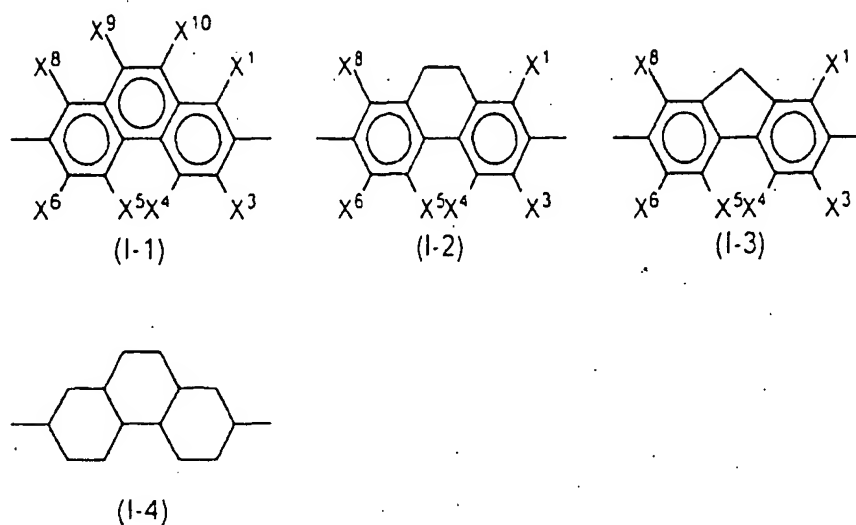
(I)



(wherein, R represents an alkyl group or an alkyl group of 1 to 12 carbon atoms substituted with an alkoxy group of 1 to 10 carbon atoms, and said groups may be substituted with a halogen, and in cases in which an asymmetric carbon arises due to substitution or branching, may be either one of optically active and a racemic mixture; ring C represents any one of a trans-1,4-cyclohexylene group in which one CH<sub>2</sub> structure within said group or two or more non-adjacent CH<sub>2</sub> structures within said group may be replaced with -O- and/or -S-, a 1,4-phenylene group in which one CH structure within said group or two or more non-adjacent CH structures within said group may be replaced with -N=, a 1,4-cyclohexenylene group, a 1,4-bicyclo(2.2.2)octylene group, a piperidine-1,4-diyl group, a naphthalene-2,6-diyl group, a trans-decahydronaphthalene-trans-2,6-diyl group, and a 1,2,3,4-

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tetrahydronaphthalene-2,6-diyl group, and said groups may be substituted with either one of a cyano group and a halogen; ring B represents any one of general formulas (I-1) to (I-4)



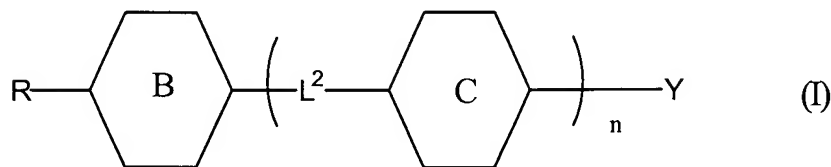
(wherein,  $X^1$ ,  $X^3$ ,  $X^4$ ,  $X^5$ ,  $X^6$ ,  $X^8$ ,  $X^9$  and  $X^{10}$  each represent, independently, any one of a hydrogen atom, a chlorine atom and a fluorine atom, provided that conditions described below are satisfied:

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- a. in (I-1) and (I-2), in a case in which at least one of  $X^3$ ,  $X^4$ ,  $X^5$  and  $X^6$  represents a fluorine atom, and a remainder represent hydrogen atoms, then at least one of  $X^1$ ,  $X^8$ ,  $X^9$  and  $X^{10}$  represents either one of a chlorine atom and a fluorine atom, and
- b. in (I-1) and (I-2), in a case in which at least one of  $X^1$ ,  $X^8$ ,  $X^9$  and  $X^{10}$  represents a fluorine atom, and a remainder represent hydrogen atoms, then at least one of  $X^3$ ,  $X^4$ ,  $X^5$  and  $X^6$  represents either one of a chlorine atom and a fluorine atom); and n represents 1, then  $L^2$  when present, represents a single bond; and Y represents a fluorine atom.

**Claim 19 (currently amended):** A fused ring compound represented by a general formula

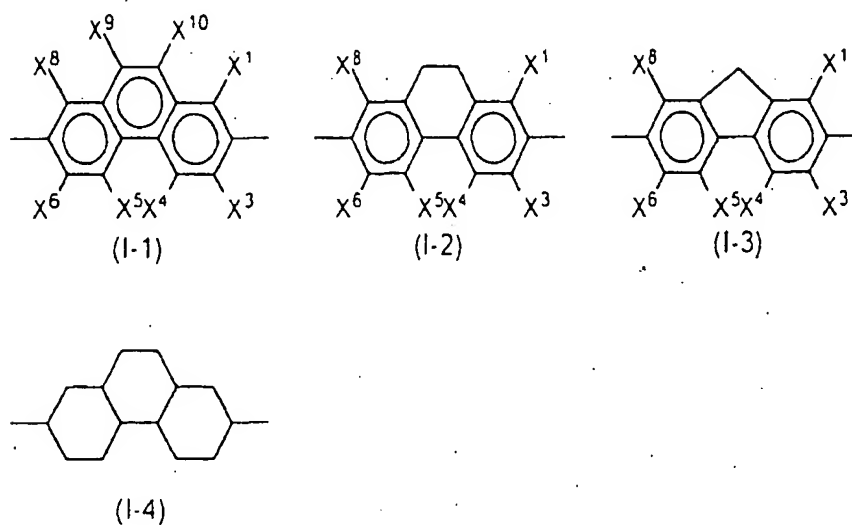
(I)



(wherein, R represents an alkyl group or alkoxyl group of 1 to 16 carbon atoms, an alkenyl group of

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2 to 16 carbon atoms, an alkenyloxy group of 3 to 16 carbon atoms, or an alkyl group of 1 to 12 carbon atoms substituted with an alkoxyl group of 1 to 10 carbon atoms, and said groups may be substituted with a halogen, and in cases in which an asymmetric carbon arises due to substitution or branching, may be either one of optically active and a racemic mixture; ring C represents a trans-1,4-cyclohexylene group which may be substituted with a fluorine atom, or a 1,4-phenylene; and ring B represents any one of general formulas (I-1) to (I-4)



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(wherein, X<sup>1</sup>, X<sup>3</sup>, X<sup>4</sup>, X<sup>5</sup>, X<sup>6</sup>, X<sup>8</sup>, X<sup>9</sup> and X<sup>10</sup> each represent, independently, any one of a hydrogen atom, a chlorine atom and a fluorine atom, provided that conditions described below are satisfied:

a. in (I-1) and (I-2), in a case in which at least one of X<sup>3</sup>, X<sup>4</sup>, X<sup>5</sup> and X<sup>6</sup> represents a fluorine atom, and a remainder represent hydrogen atoms, then at least one of X<sup>1</sup>, X<sup>8</sup>, X<sup>9</sup> and X<sup>10</sup> represents either one of a chlorine atom and a fluorine atom, and

b. in (I-1) and (I-2), in a case in which at least one of X<sup>1</sup>, X<sup>8</sup>, X<sup>9</sup> and X<sup>10</sup> represents a fluorine atom, and a remainder represent hydrogen atoms, then at least one of X<sup>3</sup>, X<sup>4</sup>, X<sup>5</sup> and X<sup>6</sup> represents either one of a chlorine atom and a fluorine atom);

L<sup>2</sup> represents a single bond; n represents 1; and

Y represents any one of a hydrogen atom, a fluorine atom, a chlorine atom, a trifluoromethoxy group, a difluoromethoxy group, a trifluoromethyl group, a 3,3,3-trifluoroethoxy group, a cyano group, a straight chain alkyl group of 1 to 16 carbon atoms, a straight chain alkenyl group of 2 to 16 carbon atoms, a straight chain alkyloxy group of 1 to 12 carbon atoms, and a straight chain alkenyloxy group of 2 to 16 carbon atoms, provided that cases described below are excluded:

i. a case in which ring B represents (I-2), n represents 0, R represents an alkyl group and Y represents an alkyl group,

ii. a case in which ring B represents (I-3), n represents 0, R represents an alkyl group and Y represents an alkoxy group,

iii. a case in which ring B represents (I-4), n represents 0, R represents an alkyl group and Y represents either one of an alkyl group and a cyano group,

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iv. a case in which ring B represents (I-8), n represents 0, R represents an alkyl group and Y represents an alkyl group,

v. a case in which ring B represents (I-4), n represents 1, ring C represents a 1,4-phenylene group, L<sup>2</sup> represents -CO<sub>2</sub>-, R represents an alkyl group and Y represents any one of an alkyl group, an alkoxy group and a cyano group,

vi. a case in which ring B represents (I-4), n represents 1, ring C represents a 1,4-phenylene group, L<sup>2</sup> represents -OCO-, R represents an alkyl group and Y represents an alkoxy group,

vii. a case in which ring B represents (I-2), n represents 1, ring C represents a 1,4-cyclohexylene group, L<sup>2</sup> represents -CO<sub>2</sub>-, R represents an alkyl group and Y represents an alkyl group,

viii. a case in which ring B represents (I-1), and X<sup>9</sup> and X<sup>10</sup> represent fluorine atoms, and

ix. a case in which ring B represents (I-3), and X<sup>3</sup>, X<sup>4</sup>, X<sup>5</sup> and X<sup>6</sup> simultaneously represent fluorine atoms.

\* \* \* \*